**I CLAIM:**

1. A semiconductor device comprising:

a dielectric substrate having opposite top and bottom surfaces and formed with a plurality of circuit traces, said top surface being formed with a plurality of first conductive contacts, each of which is connected electrically to a corresponding one of said circuit traces, said bottom surface being formed with a plurality of second conductive contacts, each of which is connected electrically to a corresponding one of said circuit traces;

a heat-dissipating frame including an inner seat body mounted on said top surface of said dielectric substrate, an outer frame body mounted on said top surface of said dielectric substrate and surrounding and spaced apart from said inner seat body, and a plurality of interconnecting portions, each of which interconnects heat-conductively said inner seat body and said outer frame body, said dielectric substrate cooperating with said inner seat body and said outer frame body so as to confine a surrounding groove, said first conductive contacts being disposed in said surrounding groove;

a semiconductor chip mounted on and in thermal communication with said inner seat body, said semiconductor chip being provided with a plurality of contact pads thereon;

a plurality of bonding wires, each of which has one end connected electrically to one of said contact pads on said semiconductor chip, and the other end extending into said surrounding groove and connected electrically to a corresponding one of said first conductive contacts on said top surface of said dielectric substrate so as to establish electrical connection between said contact pads on said semiconductor chip and said second conductive contacts on said bottom surface of said dielectric substrate via said first conductive contacts and said circuit traces; and

an encapsulant which encapsulates said bonding wires, said semiconductor chip, and said inner seat body, said interconnecting portions and a portion of said outer frame body of said heat-dissipating frame.

2. The semiconductor device as claimed in Claim 1, wherein said heat-dissipating frame is made of a material selected from the group consisting of copper and copper alloy.

3. The semiconductor device as claimed in Claim 1, wherein each of said interconnecting portions of said heat-dissipating frame is formed with one of a silver plating and a gold plating.

4. The semiconductor device as claimed in Claim 1, wherein said inner seat body has a thickness less than that of said outer frame body.

5. The semiconductor device as claimed in Claim 4, wherein said inner seat body is rectangular and said

interconnecting portions extend upwardly and inclinedly from corners of said inner seat body.